

THE
CrossFit JOURNAL

A STICKY STORY

FOR ALMOST 50 YEARS, GATORADE'S MARKETING MACHINE HAS BEEN WORKING TO MAKE YOU THIRSTY.

BY CHRIS COOPER



You can lead a man to water, but you can't make him drink. Add sugar, salt, artificial flavors and a good story, and he'll drink himself to death.

Since the early 1960s, sports-drink companies have worked to sell as many beverages as possible, and now the toughest market segment—people who just aren't thirsty—has become the target thanks to clever advertising and sponsored research.

Gatorade created the “sports beverage” category and continues to dominate even though its marketing claims contradict scientific evidence, as shown in a document from the [California Center for Public Health Advocacy](#). From its conception in 1965, the drink hasn't altered its formula, drawing questions from the likes of Darren Rovell in his book “First in Thirst: How Gatorade Turned the Science of Sweat Into a Cultural Phenomenon”:

“This lack of change (in the Gatorade formulation) has caused some people to be skeptical as to the true function of the Gatorade Sports Science Institute (GSSI), which has funded more than 120 studies in the past 17 years. Is GSSI there to develop the latest and greatest sports drink formula for the masses, or is it there to use science to best defend the status quo?”

Gatorade's benefits have been hyped by owners of the formula, beginning with Stokely-Van Camp Inc.'s assertion that Gatorade was absorbed by the body “twelve times faster than water,” which was later discredited by its next owner, Quaker Oats. Quaker, already adept at using “research” as a marketing tool, founded the Gatorade Sports Science Institute (GSSI) in 1988. A year later, Gatorade sponsored the American College of Sports Medicine (ACSM), which in 1996 produced research supporting [maximal intake](#) of fluid—especially palatable fluids containing carbohydrates—even before an exerciser became thirsty.

And despite a growing mound of scientific evidence that confirms drinking before thirst is unnecessary and even dangerous, sports-drink sales could reach US\$9.3 billion in 2017, according to [Fooddive.com](#).

Gatorade's marketing aside, experts are aware that hydration is actually very simple.



Created in 1965, Gatorade is the biggest name in the multi-billion-dollar sports-drink industry.

“We have a 300 million year developed system that tells you with exquisite accuracy how much you need to drink and when you need to drink. It’s called thirst,” hydration expert Dr. Timothy Noakes wrote in “Waterlogged: The Serious Problem of Overhydration in Endurance Sports.”

Noakes is right, but sports-drink companies have somehow convinced us to drink when we’re not thirsty and to drink to stave off cramps—another practice unsupported by science (see “[Brain Cramps?](#)”).

The campaign of misinformation might boost sales and funnel dollars to shareholders, but it can have horrible consequences. The family of [Zyrees Oliver](#) will find no consolation in Gatorade’s profits. The young athlete died of hyponatremia—drinking too much fluid, including Gatorade.

A Sticky Story With a Sweet Finish

The story of Gatorade is spun around old-fashioned ingenuity, hard work and football. College gridiron stars such as Steve Spurrier united with the likes of basketball great Michael Jordan to elevate the tale to legend, and the zero-budget lab experiment now enjoys over \$3 billion in annual sales, according to [Forbes.com](#).

When Michael Phelps won eight medals at the Athens Olympics, he bought his mom, Debbie, a new Mercedes “for all the Gatorade you bought me.” Elvis chugged Gatorade onstage during his comeback tour in the 1970s. Two of the most popular bulls on the Professional Bull Riders circuit—Little Yellow Jacket and Slim Shady—drink Gatorade before every event. It’s publicity no brand can buy, but Gatorade can repeat the stories over and over.

Legends, however, have a tendency to become exaggerated over time, and the Gatorade story is no different.

Dr. Robert Cade of the University of Florida is credited as Gatorade’s inventor, according to “First in Thirst.”

In the summer of 1965, Florida Gators players drank very little during stifling summer practices, Cade explained in a [1996 interview with Samuel Proctor](#). Players were routinely admitted to the hospital for heat stroke, and Gators assistant coach Dwayne Douglas asked Cade why his players didn’t “wee” after the game. Cade’s theory was the players were dehydrated.

Cade studied the sweat of 10 players on the Gators freshman team and continued his experiments with football players,

basketball players and swimmers. Most weren’t drinking at all during practice or competition because their coaches feared ill effects if the players drank too much water.

“I’m not sure why,” Cade said in the interview. “But all kinds of dire things were predicted if they drank water during the (game).”

In each case tested by Cade, allowing the thirsty athlete to drink improved performance. Cade’s research seemed to support the hypothesis that ingestion of fluid during exercise was better than avoiding it.

On Oct. 2, 1965, Cade tested his as-yet-unnamed concoction on the freshman Gators in the annual “Toilet Bowl” in which the freshmen played the varsity B team. Cade predicted the freshmen would have more energy in the fourth quarter, and he was right: The rookies mounted a comeback victory. Cade was asked to mix a batch for the varsity team’s game against Louisiana State University the next day. Without a budget for development, Cade had to “borrow” glucose from other research labs at the university after they were locked up for the weekend.

In the first quarter of the LSU game, Cade handed a cup to Larry Gagner, a guard who had just come off the field.

“This stuff tastes like piss,” Gagner said, dumping it over his head instead.

According to [a transcript of the Proctor interview](#), Cade said he told the player next to Gagner, James Benson, “Not only would he keep his energy during the game, but if he kept drinking it throughout the game, at the end he would feel better and be stronger.”

Other teammates drank it and reported liking the taste. Near the end of the first half, Gagner changed his mind: “He said, ‘Doc, I have decided I like the taste of piss,’” Cade recalled in the interview.

The Gators gained about 250 yards in the second half, and Florida coach Ray Graves requested the drink for the rest of the season, Cade said in the interview.

The “Gatorade” name came a month later. Cade’s staff considered the suffix “aid” instead of “ade” but worried about the Food and Drug Administration’s requirement for clinical testing and stuck with the latter, which sounded less therapeutic.

The Gatorade brand got its first boost from the Florida Gators’ success in 1965. Spurrier was quarterback, and the team rallied for several come-from-behind victories against tough opponents.



Dr. Robert Cade serves his concoction to football players. Stokely-Van Camp acquired the rights to Gatorade in 1967 and began marketing the product aggressively.

“I don’t know how much of that was Steve Spurrier’s ability to beat them in the fourth quarter and how much was Gatorade, but we thought it was Gatorade. And I guess that was half the war,” said Chip Hinton in “30 for 30 Shorts: The Sweat Solution” on ESPN. Hinton was a linebacker for the Gators from 1965-68.

“I don’t have any answer for whether the Gatorade helped us be a better second-half team or not. ... We drank it, but whether it helped us in the second half, who knows?” said Spurrier, according to Rovell’s book.

After the team’s final game against the University of Miami, Neal Amdur, a reporter for The Miami Herald, walked onto the field to interview Graves. Seeing milk cartons scattered around, Amdur asked Graves if the players were drinking milk during the game. Graves instead extolled the virtues of Gatorade, and Amdur’s resulting story was picked up by The Associated Press and United Press the next day.

“We started getting calls from all over the country,” Cade said [in the Proctor interview](#). He began loading orders onto Greyhound buses but was poor at collecting payment and couldn’t afford to make

more of the product. When he approached University of Florida staff about funding the development of Gatorade, [he was rebuffed](#), so he took a personal loan and began selling a concentrated version. In the ’70s, the University of Florida changed its tune, and litigation resulted in a [20 percent share](#) of Gatorade royalties for the university.

Cade, of course, was a scientist, not a marketer. When he was approached by Stokely-Van Camp in 1967, he quickly sold the rights to his formula. Also in 1967, Gatorade linked up with the NFL, greasing the rails for partnerships with other major leagues. By the late ’80s, teams had taken to dumping Gatorade on winning coaches, and the tradition lives on today. Momentum increased with the wildly successful 1991 “Be Like Mike” ad campaign with Michael Jordan.

Today, Gatorade is linked to hosts of colleges, pro leagues and top athletes, and though it’s challenged by Powerade and other beverages, it still enjoys a 46 percent market share, [according to Forbes](#). If Gatorade’s inventor was poor at marketing, its subsequent owners wrote the book on celebrity endorsements and product placement.



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By 1967, Gatorade had partnered with the NFL and was well on its way to becoming deeply ingrained in sports and fitness.

Gatorade and Sports Science

When Quaker Oats acquired Stokely-Van Camp in 1983 for \$220 million, Quaker executive Phil Marineau was skeptical about Stokely's claims that Gatorade was absorbed by the body 12 times faster than water. He ordered testing in Quaker labs. Marineau's scientists reported their new product was absorbed at the same rate as water, not faster, according to "First in Thirst." Quaker's strategy shifted to emphasize the carbohydrate content of Gatorade and the energy it could provide to athletes, supposedly making it superior to water.

"When I heard that, I knew we had the ammunition to win," Marineau is quoted as saying in "First in Thirst." "It sounds small, but if it weren't for the test results that said what it did, we wouldn't be here."

Quaker began funding studies to prove Gatorade's value in 1985. Three years later, the company opened the Gatorade Sports Science Institute in Barrington, Illinois. Marineau soon joined the board of the ACSM.

This was not a new strategy for Quaker. Its research laboratories—now known as the Quaker Oats Center of Excellence, also located

in Illinois—produced decades of research ("Fiber Stalls High Blood Pressure," for example) supporting the health benefits of a grain-based diet.

In 1989, when Cade created a new drink dubbed TQ II for thirst quencher—second generation (sometimes referred to as "TQ2"), he pitched the idea to Quaker first.

"We pitched it in the lab," Cade told Proctor, "and it was significantly better than Gatorade on someone working very hard or exercising very hard."

Quaker had no interest in the product until Cade connected with Pepsi, at which point Quaker sued Cade. After several years of litigation, Cade sold TQ II to Quaker, who promptly shelved it.

"They paid us \$2,000,000 for the rights to it. They did not want to make it because they are afraid of the New Coke syndrome," Cade told Proctor.

The GSSI then produced research that countered Cade's claims the beverage was superior.



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While experts maintain athletes should only drink when thirsty, the practice of "prehydration"—drinking ahead of thirst—is common in sports.

GSSI Director Bob Murray "says that TQ2 might have been touted as a better Gatorade, but GSSI, as well as outside research, concluded that Cade's key ingredients of glycerol and pyruvate didn't enhance the performance of a sports drink," Rovell wrote.

Also in 1989, Gatorade established a sponsoring partnership with the ACSM. A little over a year earlier, the ACSM had released a position stand on hydration, recommending "fluid replacement stations every mile" on marathon courses. Gatorade has been the highest-level sponsor of the ACSM since 1991, according to Rovell's book.

In 1992, Gatorade donated \$250,000 to the ACSM; in 1993, Gatorade sponsored an ACSM roundtable meeting on exercise and fluid replacement. The results from the roundtable were published in 1996; guidelines advised athletes should "drink as much as is tolerable."

Between 1999 and 2006, Gatorade's Field Testing Program took place on college campuses "to understand the implications of fluid and electrolyte losses on thermoregulation, performance and muscle cramping," according to [GSSIweb.org](#).

In 2000, Larry Armstrong said, "I believe the vast majority of people do not exceed 50 minutes (of exercise), so I would think the vast majority of people who use Gatorade don't need it."

Armstrong, a professor in the Department of Kinesiology at the University of Connecticut, holds a doctorate in human bioenergetics and is currently president of the ACSM's Board of Trustees. The [University of Connecticut](#) lists exercise and heat, sports drinks and fluid-electrolyte balance as some of Armstrong's areas of expertise.

In the same Wall Street Journal interview, Armstrong hesitated to say more for fear of offending other researchers.

"I have too many friends that deal with them," he says. "It's not necessarily a bad thing, but it does affect objectivity."

Fifteen years later, Armstrong actually [reversed his stance](#) in the same publication: "At the point that you sense thirst, your physical performance and cognitive function are beginning to decline."

Then he suggested athletes should craft their own hydration plans based on their rate of sweat lost per hour.

A large orange Gatorade cooler with a white lid and a white spigot, sitting on a white bench. The cooler has the Gatorade logo and a lightning bolt graphic. The background is a red running track.

A large orange Gatorade cooler with a white lid and a white spigot, sitting on a white bench. The cooler has a Gatorade logo on it. The background is a red running track.

A large orange Gatorade cooler with a white lid and a white spigot, sitting on a white bench. The cooler has a Gatorade logo on it. The background is a red running track.

The contents of this cooler might be dumped on the winning coach in a ritual that highlights Gatorade's saturation of sports.

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A large orange Gatorade cooler with a white lid and a white spigot, sitting on a white bench. The cooler has a Gatorade logo on it. The background is a red running track.

A large orange Gatorade cooler with a white lid and a white spigot, sitting on a white bench. The cooler has a Gatorade logo and the number #19 on it. The background is a blurred red running track.

A large orange Gatorade cooler with a white lid and a white spigot, sitting on a white bench. The cooler has the Gatorade logo on it. The background is a red running track.

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While Gatorade's marketing presents the product as fuel for performance, research has not proven sports drinks are essential for athletic success.

The same publication shows pictures of athletes using sports drinks (figures 6.10, 6.11, 6.12) and lists Gatorade products by name in a table (6.16).

While Gatorade hasn't changed its formula, perhaps it's starting to change its tune, even if the new information hasn't overwhelmed years of marketing.

In the April 2015 webinar "[SSE #141 Hydration for Football Athletes](#)," Gatorade-sponsored scientists William M. Adams and Douglas J. Casa highlighted the need for individualized hydration prescriptions. In Table 3, the authors recommended, "If sweat rate is unknown, you should drink to the sensation of thirst to minimize the risk of over drinking."

This was Gatorade's first acknowledgement of the risks of hyponatremia.

Perhaps serendipitously, Gatorade is working on products purported to address the individual needs of elite athletes as blanket guidelines fall by the wayside. In 2014, Gatorade provided a "[unique personalized hydration system](#)" to individual players on the Brazilian World Cup team. A sensor planted in each player's water bottle sent hydration information to team coaches and trainers, who then followed recommendations on a tablet app (provided by Gatorade.) A [promotional video produced by Gatorade](#) blurs the lines between research and advertisement: Every scientist, athlete and spokesperson in the video is sponsored by Gatorade.

Earlier this year, Gatorade's owner, PepsiCo, was advertising for a "[Senior Scientist](#)" on its website. Duties included the "development/implementation of educational strategies for the GSSI program at IMG Academy with an emphasis on sports nutrition personalization" and "lead GSSI IMGA field-based testing for the purpose of prototype and/or technology validation."

Mixology and Marketing

"Athletes are artists," [Phoebe Cade Miles](#) recalled her father as saying.

But perhaps the real art is the combination of science and marketing. Sponsored science, advertisements and carefully

planted messages on social networks come together in Gatorade's "[Mission Control](#)," which monitors conversations about the brand and inserts its influence when necessary.

It's all part of a marketing machine that's been running since the '60s.

Even if competition has reduced Gatorade's market share to 46 percent worldwide (69.5 percent in the U.S.), the company has succeeded in working its way into just about every facet of professional and college sports and even leveraging stars who endorse competitors. NBA sponsorship dictates NBA superstar LeBron James—who endorses Powerade—drink Gatorade during games, though he removes the logo from the bottle, according to [Deadspin.com](#).

While shoe-in hall-of-fame superstars hold the bottles, it's the GSSI that holds the reins and produces the research that tells athletes—elite and otherwise—they need the product. Ads quoting studies and scientists in lab coats tell athletes they'll perform better if they pay more attention to fluid and electrolyte levels, and who wouldn't want to perform better? It's science, you see.

And even if the validity of the research is questioned—and The BMJ most certainly did that by highlighting the poor design and questionable results of a host of studies on hydration—the critics' voices aren't loud enough when the crowd screams as the winning coach is drowned in a shower of Gatorade. ■

About the Author

Chris Cooper owns [CrossFit Catalyst](#) in Sault Ste. Marie, Ontario.